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MEMORANDUM FOR: Deputy Director/Intelligence

ATTENTION: Assistant to the DD/I (NSC)

SUBJECT: Comments on Draft of 23 September 1955, "Statement of CIA Position Concerning Exchanges of Persons and Travel to the USSR"

1. This Office considers the subject paper to be generally excellent. It is noted that consideration of exchanges of persons in travel to and from the Soviet will be weighed along with other related problems such as the exchanges of information. This approach cannot be undervalued. For example, the current counterpart of the 1941 Plan would have a far greater intelligence value than would a dozen unilateral Soviet visits to the U.S. Therefore, negotiations should be conducted on a broader interpretation of what constitutes a quid pro quo. A suggested change in the first sentence follows:

The U.S. should in no case permit Soviet citizens to enter the U.S. unless the USSR offers concessions of comparable value. When these concessions are a reciprocal invitation to visit the USSR, they must provide for types and numbers of U.S. citizens comparable to the Soviet delegates and comparable restrictions on movement and information in both countries.

2. The draft paper discusses on pages 6 and 7 the selection of personnel for U.S. delegations from the standpoint of security and reliability. In many cases, it appears to this Office to be desirable to include Agency personnel on delegations to the USSR when security limitations permit. We propose the insertion of the following at page 7, line 9, immediately following "... to obtain valuable information "

In some areas of exchange, there are very few unclassified American citizens qualified to make useful intelligence observations and acceptable on the first three counts above. While a biologist or metallurgical engineer could provide useful information on Soviet progress in their fields, other areas such as statistics or local government demand wide knowledge of Soviet practices. In addition,

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in the same manner that firsthand observation was far more valuable to the Soviet agricultural delegation than was examination of the voluminous open U.S. literature on the subject, so intelligence officers could greatly increase their capacities by on-the-spot observation in their fields of responsibility.

3 The footnote on page 6 of the draft points out that the data made available to the U.S. might have been distorted or fabricated but that this probably could be detected. The exchanges of statisticians and financial experts provides an opportunity to investigate the problem of falsification of Soviet published statistics, but the chief concern is rather to determine Soviet statistical definitions and methodologies. The footnote on page 6 could be clarified to read:

Cross checking would determine whether these data were fabricated. More important, they might be so obscurely defined or unclear (e.g., the biological yield in agriculture, percentage changes on an unknown base in industry) as to be relatively useless. To forestall this, the U. S. should specify quite clearly in advance exactly what data are requested (e.g., total barn yield of grain, aluminum production in physical units).

4. The draft has five annexes concerning specific areas of exchange, of which Annex B, "Technical and Professional Fields of Group Exchange," is of primary interest to CRR.

Electronics

Exchange in this industry should be restricted to civilian television and radio production.

Military electronics including radar, electronic controls, and related servo-mechanisms and other twilight zones are areas in which it is believed the USSR would obtain such an important net advantage that it must be quite clearly excluded from consideration.

U S intelligence interests would be directed at prices, plant product mix, labor productivity and technology. On the other hand, exchanges in the field of civilian television and radio production would provide an intelligence gain to the U.S. by providing opportunity to observe production methods, use of special raw materials and equipment and related factors about man-hours and production efficiency. To the extent that we could substitute observational intelligence facts from this coverage for present estimates based on analogy, a net U S intelligence gain would result.

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Chemicals and Plastics

Because of the wide variety of products and processes involved in this industry, and the extensive range of strategic importance of the uses to which the end products are put, no over all estimate can be given as to whether a net advantage could accrue to either the U.S. or to the USSR from an exchange. The Soviet advantage would be in observing and obtaining process data about new equipment and its application. On the other hand the United States would be primarily concerned with obtaining statistical data on production, labor requirements, costs, technical ability, and technology for the basic chemicals as well as those of strategic or military importance.

Generally, the Soviet application of theory to the design and production of processing equipment lags far behind that in the U.S. However, in certain areas the U.S. could stand to gain technical information of value. For example, Soviet aircraft and military equipment are known to be operating under extreme cold weather conditions. Under the same conditions the U.S. is experiencing great difficulty in achieving satisfactory operation of military equipment and is expending considerable money to develop products satisfactory for extreme weather uses. Thus, technical knowledge could be gained on lubricants, rubbers, and plastics which might disclose alternate products or important chemicals which are currently in use by the Soviets for wide temperature ranges.

It is concluded that proposals in this field particularly need to be examined carefully in terms of net advantage.

Soviet Transportation - Railroad

It is felt that the technological know-how gained by the Soviets through exchanges, and their capability of applying it in the short run, weighed against the intelligence insights gained on the part of the U.S., give a net advantage to the U.S.

Railroads represent 85 percent of all USSR transport. The broad long run net advantage of this exchange would be in favor of the USSR. Soviet officials visiting U.S. railway facilities would gain extremely valuable and desired information and know-how on such matters as centralized traffic control, terminal and line operations in the movement of heavy tonnages, U.S. experiences in the transition from steam to diesel-electric motor power. Most of the engineering aspects of this information is in readily available published form, but the applications and specialized operational experiences could only be gained by direct exchanges. On the other hand, the know-how acquired on short specialized visits could be inadequate to affect seriously developments of USSR railroad systems in the short run. Soviet

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railroads at present are hauling more traffic in terms of ton miles than the U.S. railroads did in 1954. Other factors, such as cost, investment, etc., present serious obstacles to the Soviets in translating U.S. technological know-how to the Soviet system and thereby extend to the long run any significant impact resulting from visits by Soviet technicians in the railroad transportation field.

Intelligence-wise no observations have been made of the Soviet railroads by technically competent individuals since the 1930's. Opportunity by competent individuals to observe Soviet railroad operations would provide a needed addition to currently available intelligence for it would assist in understanding the significance of the current high hauling capabilities of the railroads and in forecasting the effect of this condition on the railroad system and its impact on future economic and military strength.

Other Metals

Copper. The USSR would gain some technical know-how on processing oxidized and sulfide ores, while the U.S. gains would be primarily intelligence information on total productions, costs, etc. On balance, the net advantage would be with the U.S. on the basis of intelligence acquired.

Magnesium. The U.S. has nothing to gain except general information of known intelligence by arranging visits to these plants. The USSR on the other hand would gain directly information on processing not now being accomplished by the Soviets, such as the extraction of magnesium from sea water economically and rolling and fabricating techniques.

Aluminum. On balance, it is believed that the exchange of visits between experts in the aluminum industry would be of net advantage to the U.S. for the same general reasons as outlined below in respect to steel.

Tin. The net advantage on this metal would go to the Soviets. U.S. intelligence would undoubtedly gain desired information on location, capability and production of mines, and processing facilities, but nothing technologically. On the other hand, the USSR would gain valuable processing information on the U.S. practices in processing low-grade contaminated ores similar to the ores found in the USSR. These practices could be readily applied to the immediate benefit of the Soviets. (The only primary smelter in the U.S. is Government owned.)

Steel

In balance, it is felt that the exchange of visits in the steel industry would provide a net advantage to the U.S.

U.S. intelligence has not been able to assess accurately technology in the Soviet steel industry. Observation by skilled

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technicians would serve to verify present assumed levels of technology and possibly disclose new practices superior to those of the U.S. For example, a visit to Krivoi Rog, a complex of over 50 mines, would provide valuable information on the extent to which the Soviets are profiting in beneficiating, agglomerating, and blending of ores. A visit to Zaporozhye would undoubtedly disclose Soviet practices in the flow of material through a large steel complex from initial stages to the finished product, including alloys and special steels. Visits to metallurgical equipment plants would provide considerable data on Soviet design and ability to produce rolling mill equipment. All visits would serve to throw some light on the level of labor productivity.

The same information in the U.S. is readily available to Soviet technicians in published form. The principal gain of Soviet visits would be to evidence application. Fundamental processes are judiciously protected by steel manufacturers from one another, and there is serious question that these companies would release such information to long-term potential competitors even at the requests of the highest levels of Government.

The net gain to the Soviets would almost certainly be greater in the cases of plants engaged in the extraction of the following metals used as alloys or additives by the steel industry:

Cobalt
 Nickel (certain processes)
 Columbium
 Molybdenum (certain processes)

Therefore, careful selection of installations visited by the Soviets would offset much of the gain posed.

High Precision Anti-Friction Bearings

Exchange of visits in this field would result in the USSR obtaining disproportionate advantages and therefore should not be sponsored by the U.S.

Because of the importance of this item in the production of high precision mechanisms there is little question that obtaining intelligence of Soviet production would be of substantial gain to the U.S. U.S. intelligence knows nothing about Soviet total output or value of these goods. We only know the USSR is producing what they need. Offsetting the value of acquiring such information is the risk of giving up a present unknown but expected substantial advantage in technological know-how. Such things as humidity controls, air cleaners, temperature

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controls, etc and their application is not sufficiently covered in U S publications to provide the Soviets with all the information they need in this important field

Tractors, Locomotives, and Rolling Stock

The net advantage in this field of exchange would accrue to the U S. Soviet technology is well developed in the production of these end items. While on the part of the U S, there is little technological information to be gained by visits to the Soviet, economic information on costs, output per man hour, technology of production, and production control would provide key tools for estimating growth and direction of growth of Soviet railway systems, efficiency of Soviet metal fabricating and construction equipment industries, and capital equipment applied to agriculture.

Electric Power

Such an exchange would be of net benefit to the U S. Information on the plans for expansion and statistical data on the accomplishments of the electric power industry in the U S are readily available to the Soviets in unclassified Government publications and in various trade and technical publications. With some few exceptions, similar information is not available from the Soviets.

The exchange of delegations with the opportunity for discussion and observation, should result in the U S obtaining valuable information on such items as Soviet plans for expansion of the electric power industry, national transmission network, future hydroelectric construction in Siberia, production plans for 200 megawatt hydroturbines now in the design stage, dates on which Kuybyshev and Stalingrad hydroelectric stations will operate at full capacity, and technological data. There should be mutual benefit to both delegations from the exchange of ideas, experience, and common problems.

Machine Tools

The net advantage in exchanges on machine tools would be to the U S intelligence community.

Machine tool production in the Soviet and Satellites is at a high level, and it is not felt that considerable technological gain would accrue to the Soviets from inspection of U S machine tool plants, since general information on the state of the art in the U S is well distributed publicly. On the other hand, one of the major U S intelligence objectives is to assess the state of the technology in the USSR and the product mix of machine tools is invaluable to this end.

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With respect to production information on the extent of the mass production of machine tools, labor efficiency, quality (precision, feeds and speeds), extent of emphasis on special purpose equipment, costs, prices, and pricing processes would add substantially to U S intelligence.

To the extent that it is possible to obtain information on the national inventory of machine tools, a further contribution to our intelligence would be made. For example, as the proportion of grinders to the total inventory of machine tools rises, there is a strong indication of growing emphasis on mass production techniques. The extent of our intelligence on machine tool production and inventory on the Soviet is at a level below that necessary to make firm judgments. Information on composition of Soviet inventory by type and age of machine tools provides key intelligence on the basic metalworking industry of the USSR.

Petroleum

The fact that the economic requirements of the Soviets are presently satisfied by their indigenous petroleum production and facilities, coupled with the fact that Soviet present know-how in the petroleum field could probably also satisfy war requirements, gives the U S a net advantage in a petroleum exchange based primarily on intelligence acquisitions.

In the petroleum field, it is felt that with the exception of a very few areas the USSR has at its disposal all U S theory through publications and its own research efforts. The big gap in USSR know-how is the application of the theory. While U S technicians could not expect to gain considerably new know-how from Soviet companies, intelligence-wise the acquisition of an accurate gauge of crude oil production, capacities, and locations of installations, etc. would act to confirm present intelligence -- much would be new. Unknown factors, such as civilian use patterns, strategic stockpiles, and storage facilities probably could not be collected through observation; an exchange of statistical data on the industry might largely reveal this desired intelligence.

5 Annex B of the referenced draft should contain several exchanges of persons in fields related to geographic intelligence as follows:

a Mapping and charting, including large scale topographic mapping, aeronautical and hydrographic charting. It is our belief that the Soviets have collected a large number of large-scale maps and charts of the U S and know to some extent the mapping program of the U S. A net advantage would be gained by the U S intelligence-wise through exchanges which would provide insight into possible plans and programs of selected organizations engaged in large-scale mapping of the Soviet Union.

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b Photographic Interpretation to include U.S. visits to Aero-Geodetic establishments, the Military Engineering Academy, the Officers Surveying and Mapping School in Leningrad, the Moscow and Novosibirsk Institute of Engineers of Geodesy, Photogrammetry and Cartography, and the Institute of Land Utilization in Moscow. Many of the technical advances made in the field of photo interpretation and photogrammetry in the U.S. have been fully reported in technical manuals and are undoubtedly in the hands of the Soviets. Similarly, the Soviets have been able to observe the application of photographic interpretation to problems of reclamation, power development, city planning, geologic and soils work in the U.S. Our information on Soviet activities and advancement in these fields is relatively sketchy, and it would be to our net advantage to thoroughly investigate Soviet technical achievements, instrumentation and the application of photographic interpretation and photogrammetry.

c Earth science research and exploration. U.S. knowledge on the application of Soviet geological research and field exploration is necessary to assess the economic capability within certain regions of the USSR. U.S. work and publications in this field have been available for many years. Thus, the net advantage of exchange would accrue to the U.S. Soils research and mapping would provide similar opportunities for examination of scientific work related to agricultural developments and other land planning activities within the Soviet Union. Land reclamation activities would provide an excellent vehicle for examination of wide areas in the Soviet Union and would prove to be a net advantage in view of the well publicized land reclamation activities in the U.S. This would also hold true for power development and land management activities.

6 OHR is also concerned with Annex B, in which exchange of fiscal and budgetary officers is discussed. It is felt that the same emphasis could be placed on this portion of the paper as is outlined in our explanation for modifying the footnote on page 6, and the last sentence of Annex B could read:

Particularly, much could be learned concerning Soviet statistical definitions and methodologies, which would assist greatly in interpreting those data which the USSR presently publishes.

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